DOCUMENT RESUME

ED 269 219 SE 046 298

TITLE Nature-Computer Camp. Final Evaluation Report 1984-1985. E.C.I.A. Chapter 2.
INSTITUTION District of Columbia Public Schools, Washington, DC. Div. of Quality Assurance.
PUB DATE Sep 85
NOTE 74p.; For results of the summer 1984 program, see ED 258 822.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Computer Literacy; *Computer Science Education; *Ecology; *Environmental Education; Grade 6; Intermediate Grades; Outdoor Education; *Program Evaluation; *Resident Camp Programs; Science Education; *Technology
IDENTIFIERS *District of Columbia; Environmental Education Research

ABSTRACT

This report presents a description and evaluation of the Nature-Computer Camp (NCC), a science- and technology-oriented program for sixth-grade students from the District of Columbia Public Schools. The NCC experience is designed to offer students opportunities in such environmentally-related areas as woodland ecology, stream ecology, geology, as well as in the development of computer skills. Major sections include: (1) background and project description (highlighting program philosophy, history, and content); (2) external evaluation design (explaining the planning, monitoring, and implementing the evaluation model); (3) evaluation results for the 424 students in the summer 1985 program (specifying findings for each of the program's four major objectives); and (4) appendices (presenting samples of the camp schedule, questionnaires, student knowledge and attitude tests, and teacher and counselor checklists for student competencies, skills, and social behaviors). Results, among others, show an increase in attitude scores, a mean score approximately equivalent to mastery of the designated computer and science skills, and a mean score approximately equivalent to acquisition of 91 percent of socialization skills. (ML/JN)

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DISTRICT OF COLUMBIA PUBLIC SCHOOLS

NATURE-COMPUTER CAMP

FINAL EVALUATION REPORT E.C.I.A CHAPTER 2

SEPTEMBER 1985

FLORETTA D. Mc KENZIE
SUPERINTENDENT OF SCHOOLS

SE 046 298

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PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA

THE NATURE-COMPUTER CAMP

FINAL REPORT

1984-1985

Prepared by
Division of Quality Assurance

1984-1985

THE NATURE-COMPUTER CAMP

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TABLE OF CONTENTS

	Page
SUMMARY OF FINDINGS	v
Chapter	
I. BACKGROUND AND PROJECT DESCRIPTION	
Introduction	1
Description of the Project	1
II. EXTERNAL EVALUATION DESIGN - PLANNING, MONITORING AND IMPLEMENTING (PMI) EVALUATION MODEL FOR DECISION-MAKING	4
III. EVALUATION RESULTS	
Narrative Summary	6
PMI Inputs, Processes and Outcomes	
Objective A	9
Objective B	15
Objective C	21
Objective D	24
IV. APPENDIXES	
A. Evaluation Model Schema	27
B. Correspondence, Forms and Schedules for Planning and Implementing the Nature-Computer Camp	29
C. Results of Nature-Computer Camp Staff Development Workshop Questionnaires, 1985	46
D. Record of Student Participation by School	48
E. Student Certificate of Participation	53
F. Results of Students' Pre- and Post-test Scores on the Computer and Science Knowledge Test	55

TABLE OF CONTENTS (continued)

Page

IV. APPENDIXES

G. Teacher Checklist and Results 57

H. Students' Attitude Test and Results 59

I. Sample of Expected Social Behavior 61

J. Counselor Checklist and Results 64

Summary of Findings

Title

The Nature-Computer Camp

Project Directors

Dorothy Elaine Barton, Project Coordinator
Wendell Boyd, Camp Manager
Mary Harbeck, Supervising Director of Science

Project Location

Camp Round Meadow, Thurmont, Maryland

Target Population

Sixth grade students from the District of Columbia Public Schools

Background

Beginning in 1971, the DCPS, the National Park Service and in 1973, the U.S. Office of Education have co-sponsored the Round Meadow Environmental Laboratory School in which students from the fifth grade (in 1971) and thereafter, sixth grade (1972-1985) were provided an opportunity to reinforce their knowledge and skills on environmental science. Since 1983, a new addition to the curriculum was a computer science component, hence the new title of the program, Nature-Computer Camp.

Stated Objectives

A: By July, 1985, a Nature-Computer Camp combining science and computer skills for the District of Columbia Public School sixth graders, will be established at Camp Round Meadow, Thurmont, MD.

B: At the completion of the week in the Nature-Computer Camp program, participants will demonstrate a significant gain in knowledge in the areas of stream ecology, woodland ecology and geology, and in knowledge about computers.

C: At the completion of the week in the Nature-Computer Camp Program, at least 80% of all participants will show maintenance or an increase of a positive attitude toward the program.

D: Using a set of social expectations established by the staff and student campers, campers will demonstrate appropriate socialization.

Evaluation

The evaluation follows the Planning, Monitoring, and Implementing (PMI) Evaluation Model for Decision-Making which was developed by the Division of Quality Assurance, District of Columbia Public Schools.

Findings

1. Six 5-day sessions of the Nature-Computer Summer Camp were held at Round Meadow serving a total of 481 students, an average of 80 per session.

2. The staff received training before the first session and 95.4% of those attending, rated the training in a highly positive way on five criteria.

3. Results of science test scores analyzed on 424 pre- and post-tests showed a significant increase in knowledge acquired, at the 0.001 level.

4. Results of computer test scores analyzed on 424 pre and post-tests showed a significant increase in knowledge acquired, at the 0.001 level.

5. Results of the attitude scale scores on 424 students showed that on a scale of 1 to 5 with 1 being the highest, the mean score increased from pre-to post-test (1.8 to 1.5).

6. Post assessment scores on counselor checklists on 424 participants showed a mean score approximately equivalent to acquisition of 91.0% of the socialization skills.

7. Post assessment scores on teacher checklists on 424 participants showed a mean score approximately equivalent to mastery of 94.8% of the designated computer and science skills.

BACKGROUND AND PROJECT DESCRIPTION

Introduction

Purpose - The purpose of the Nature-Computer Camp (NCC) was to provide selected 6th grade District of Columbia Public Schools (DCPS) students with the opportunity to reinforce their knowledge of environmental science and to acquire skills in computers.

Need - Economically disadvantaged students who are residents of large urban areas generally have limited experiences or direct contact with the natural environment. The NCC program was designed to reduce geographical isolation of urban youngsters and to provide them with the opportunity to live and learn through first-hand contact with nature and thereby develop an appreciation of their environment and an awareness of environmental problems. In line with the objectives of the school system in regard to computer literacy, the program also sought to develop skills in this area. It also provided students with the opportunity to meet DCPS students from other schools and to improve their social and interpersonal skills.

History -The NCC traces its origin to the Round Meadow Outdoor Environmental Laboratory School. From 1971 the program has operated at Camp Round Meadow with support from a variety of groups including the National Park Service, ESEA Title I, the Emergency School Aid Act and the DCPS Science Department. The Educational Consolidation Improvement Act (ECIA) Chapter 2 has funded the project since 1983. The program has focused on environmental science with an emphasis on woodland ecology, stream ecology, and geology. Emphasis was placed on content as well as process. While these components of the curriculum were retained, a component on computer literacy has been added to the program for the last three years thereby giving it a two-fold focus on science and technology. In so doing, the program sought to meet the objectives of the DCPS on computer literacy as well as the national acclaim for increasing minority participation and interest in science and technology.

Description of the Project

The NCC was an environmental and computer science program designed for sixth grade students in the D.C. Public Schools. The program was implemented at Camp Round Meadow, in the Catoctin Mountains in Maryland. The program components were as follows:

Planning: The management/administrative staff, made up of the Project Manager, Project Coordinator, and Camp Manager performed the following functions: disseminated information about the camp; determined enrollment procedures and provided registration and physical evaluation forms to principals as requested; reviewed and revised or updated all instructional/ curriculum materials previously used at the camp; developed the schedule for the six one-week sessions, scheduled selected participants and notified them

of dates of attendance; determined needed materials and supplies and ordered materials as needed; approved or sought approval of cooperative agreement in lease with the U.S. National Park Service for use of the camp facilities, and food service contract with vendors; arranged for bus service for transportation to and from the camp as well as within the camp, and approved the design for the evaluation of the program.

Staff Selection and Development: The instructional staff was made up of five teachers and nine aides. The teachers had qualifications in the speciality areas of the program. The aides were D.C. Public School Aides and undergraduate students who have had experience working with children. Aides performed counseling duties and monitored student social adjustment. Teachers and aides attended a three-day workshop prior to the opening of camp which was conducted by the administrative staff and resident manager.

Scheduling: The program was scheduled to operate for six weeks during the summer, from July through August. There were six sessions, each one lasting for one week.

Record Keeping: Project staff kept records of activities.

Materials and Supplies: Besides the materials needed for the study of environmental science such as measurement instruments, the program used twenty IBM-PC Junior computers which were provided by the Office of Educational Technology.

Academic Curriculum: The environmental science curriculum was focused on woodland ecology, stream ecology and geology. There was focus both on content as well as on the processes of scientific inquiry to include the application of measurement principles in data collection, problem solving techniques during investigation, organizing, classifying, recording and interpreting data and making abstractions, inferences and conclusions. In the computer science curriculum students received information on the history of computers, learned to write a simple program, identified the hardware components that make up a computer, participated in discussions involving the impact of computers on society, computer-related careers and the effect of computers on careers.

Recreational Curriculum: Students selected extra-curricular activities in their areas of interest.

Socio-emotional Curriculum: In "rap sessions", counselors held discussions with students on expected social behaviors and interpersonal relations. Personal problems were also discussed with the objective of increasing socio-emotional maturity, adjustment, social skills, and the development of a positive attitude toward the program. The development of the latter was also promoted by teachers as they sought to present their materials in a varied and interesting fashion and to establish an amicable relationship with the students.

Instruction: The focus of instruction in environmental science was on the reinforcement of the knowledge acquired in the sixth grade and on actual hands-on experiences. The major part of the instruction occurred on the trails. The computer sessions were held indoors, lectures and hands-on experiences prevailed. Instruction was individualized according to student level and pace of learning.

Students: Students from 89 elementary schools were those who had completed the sixth grade curriculum, received parental consent to participate and had health insurance coverage. There was an allotment for a limited number of special education students (ten per week).

Testing: Assessment was conducted of (1) the staff perceptions of the usefulness and effectiveness of the staff development sessions; (2) student academic gains in environmental science and computers using the NCC Knowledge Test; (3) teacher evaluation of student mastery of objectives using the Teacher Checklist; (4) student change in attitude using the NCC Attitude Scale and (5) student gains in social-interpersonal skills using the Counselor Checklist. Pre- and post-testing were applied in assessing student academic gains and attitude change.

EXTERNAL EVALUATION DESIGN - PLANNING, MONITORING AND IMPLEMENTING (PMI) EVALUATION MODEL FOR DECISION-MAKING

The evaluation follows the Planning, Monitoring, and Implementing (PMI) Evaluation Model for Decision-Making which was developed by the Division of Quality Assurance, District of Columbia Public Schools. (See Appendix A.) The evaluation design which was developed at the beginning of the project year, consisted of the intended inputs, processes and outcomes on specially designed status report forms. The final report relates to the status report forms, agreements or discrepancies between intended and observed inputs, processes and outcomes for each objective. Supporting data are included in the appendix. Preceding the PMI status report forms is the results section which summarizes the agreements and discrepancies for each objective and states a general conclusion.

RESULTS

EVALUATION RESULTS - NARRATIVE SUMMARY

The results of the evaluation are presented in this section. Following the narrative are the inputs, processes and outcomes on which this summary is based presented in the PMI reporting format. Supporting data are in the appendix.

Objective A: By July, 1985, a Nature-Computer Camp combining science and computer skills for the District of Columbia Public School sixth graders, will be established at Camp Round Meadow, Thurmont, MD.

There was agreement between all of the intended and observed inputs. Personnel inputs included the project manager, assistant project manager, project coordinator, camp manager, elementary school contact persons, five teachers, nine aides, pre-enrollment allotments for 80 regular students and 10 special education students per week. Schedules were available for six one-week sessions. Planning supplies and materials were adequate. Forms on file included those for registration, physical evaluation, and staff development evaluation. Camp area and facilities were observed to be adequate.

There were no discrepancies in the processes for Objective A. The project manager took care of the pre-camp business activities. The project manager and project coordinator reviewed and updated curricular activities. Principals and parents were notified of the program and eligible students identified. Preparations for attending camp were completed. A three-day staff development workshop was held. Camp activities began with participants following daily schedules. Project staff supervised, taught the students, and conducted student assessments. Students were given certificates of participation at the end of their camp period.

Agreement existed between the intended and observed outcomes. Records showed that the general administrative duties and planning necessary for establishing the Summer Science camp were accomplished. Analysis of responses of staff members on a questionnaire evaluating staff development showed a range of 94% to 100% on the five criteria measured.

Objective B: At the completion of the week in the Nature-Computer Camp program, participants will demonstrate a significant gain in knowledge in the areas of stream ecology, woodland ecology and geology, and in knowledge about computers.

All of the observed and intended inputs were in agreement. Curricula for the four content areas were provided, a knowledge test devised and twenty computers on hand. Materials and supplies were adequate, bus transportation available and three trails were available for use.

There was agreement between both the intended and observed processes. Students were observed participating in classroom activities designed to help them acquire computer literacy. Students took the Nature-Computer Camp Knowledge Test on their first and last days at the camp.

Both of the intended and observed outcomes were in agreement. Results on 424 cases for which both pre- and post-test science and computer scores were available, showed significant increases in both areas.

Objective C: At the completion of the week in the Nature-Computer Camp Program, at least 80% of the participants will show maintenance or an increase of a positive attitude toward the program.

The additional inputs for Objective C all showed the status of agreement between the observed and intended items. These included the pre- post-test attitude scale, adequate camp supplies and adequate camp facilities. The six observed processes also showed agreement with their corresponding intended processes. The attitude pre-tests and post-tests were administered as planned; students had opportunities for a wide variety of activities with different staff members and students were taught at their own level and pace. Subject matter was presented in an enjoyable way using games and opportunities for hands-on experience. Other extracurricular recreation activities were also provided.

Results of the pre-test attitude scale scores on 424 students showed that students came to camp with a good attitude. Although there was a discrepancy from the intended outcome because 27.4% of the participants maintained or increase a positive attitude toward the program, that figure did not take into account the degree of improvement. On a scale of 1 to 5 with 1 being highest, the mean score increased from pre-to post-test (1.8 to 1.5).

Objective D: Using a set of social expectations established by the staff and student campers, campers will demonstrate appropriate socialization.

Objective D observed inputs all were in agreement with the intended items. Additional inputs included a written statement of a definition of well socialized individual and list of expected behaviors; a counselor checklist; as well as adequate camp supplies, materials and facilities. All processes also showed agreement between observed and intended items. Students were given information on socialization and expected behaviors; they were involved in cooperative camp activities; they attended counselor led social/interpersonal skills "rap-shops"; and the counselors completed individual student socialization checklists for all participants.

The outcomes showed that positive socialization did occur. Checklists completed by the counselors on 424 participants showed the mean score to be equivalent to 91.0% on a 100% scale. The checklist included such items as "follows camp rules and regulations" and "maintains a good relationship with other campers". A teacher checklist was also completed for each student with the emphasis more on subject matter skills. On these checklists students showed excellent achievement, averaging 94.8% mastery of the skills in the areas of computers, woodland ecology, stream ecology and geology. With the successful outcomes, Objective D was reached.

Conclusion

All of the observed inputs, processes and outcomes for the four objectives were in agreement with the intended inputs, processes and outcomes. Objective A, that a Nature-Computer Camp combining science and computer skills would be established as designated, was verified. Gains were shown in knowledge in the areas of stream ecology, woodland ecology and geology and in knowledge about computers as stated in Objective B. Students maintained or increased a positive attitude toward the program as proposed in Objective C. Campers demonstrated appropriate socialization as stated in Objective D. They also were rated highly by their teachers on acquisition of skills.

The goal of this project, to hold a camp providing students with the opportunity to develop socio-academic skills emphasizing environmental interdependencies and computer literacy was met. With 424 students demonstrating gains in all areas, no changes are recommended for the program. The evaluation recommendation is to administer the attitude scale only as a post-test instrument. In comparing the results of the past three years, it was found that students arrived at the camp with a very high attitude score. Administering the attitude scale only at the end of their session would verify that students leave with a similarly high attitude score.

Decisions

This report will be forwarded to the Project Director, Project Manager, LEA Chapter 2 Director, the Superintendent and the Board of Education which will aid them in their decision-making concerning this project.

FINAL REPORT

PLANNING, MONITORING, AND IMPLEMENTING (PMI)
EVALUATION MODEL FOR DECISION-MAKING

Reporting Form

Goal: The Nature-Computer (Summer Science) Camp program will provide the opportunity for the student camper to develop socio-academic skills emphasizing environmental interdependencies and computer literacy.

Objective A: By July, 1985, a Nature-Computer Camp combining science and computer skills for District of Columbia Public School sixth graders, will be established at Camp Round Meadow, Thurmont, MD.

PART I

INPUTS

INTENDED	STATUS	OBSERVED
a. Project manager	Agreement	a. The Chapter 2 Directory lists the project manager.
b. Project coordinator	Agreement	b. The evaluation team met with the project coordinator.
c. Camp manager	Agreement	c. The camp manager was present at the evaluation design meeting.
d. Resident manager	Agreement	d. The evaluation team met with the resident manager.
e. Elementary school contact persons	Agreement	e. The project coordinator verified that there is a contact person in each participating elementary school.
f. Five summer camp staff members (teachers)	Agreement	f. The team observed the five teachers as they instructed the participants (students).
g. Nine aides	Agreement	g. The project coordinator verified that nine aides assisted in various tasks. The team met and talked with several of them.

OBJECTIVE A

PART I (continued)

INPUTS

INTENDED	STATUS	OBSERVED
h. Pre-enrollment of 85 regular students per week	Agreement	h. The camp manager verified that there was a pre-enrollment of 85 regular students per week from a total of 89 elementary schools.
i. Pre-enrollment of 5 special education students per week	Agreement	i. Pre-enrollment was evidenced by the records viewed by the evaluation team.
j. Schedule for six one-week sessions	Agreement	j. A schedule was observed by the evaluation team.
k. Adequate planning supplies and materials	Agreement	k. The evaluation team observed supplies and materials. The project coordinator verified that supplies and materials were adequate.
l. Registration forms	Agreement	l. A sample registration form is on file in the Evaluation Unit.
m. Physical evaluation forms	Agreement	m. The Evaluation Unit observed a sample physical evaluation form and filed it in the Evaluation Unit Office.
n. Staff development evaluation instrument	Agreement	n. Staff development instruments were observed by the team.
o. Adequate camp area and facilities	Agreement	o. Adequate camp area and facilities were observed by the team.

OBJECTIVE A

PART II

PROCESSES †

INTENDED	STATUS	OBSERVED
1.1 Project manager will obtain approval of the cooperative agreement and lease with U.S. National Park Service for use of facilities.	Agreement	1.1 A copy of the agreement lease with U.S. National Park Services for use of facilities was observed by the evaluation team.
1.2 Project manager will approve food service contract with a vendor.	Agreement	1.2 Project coordinator verified the fact that the project manager approved food service contract with a vendor.
1.3 Assistant project manager, project coordinator and camp director will review material previously used at Camp Round Meadow.	Agreement	1.3 Assistant project manager, project coordinator and camp director verified that they reviewed material previously used at the Nature-Computer Camp.
1.4 Project coordinator and staff will reproduce curricular material.	Agreement	1.4 It was verified that the project coordinator and staff reproduced curricular material.
1.5 Project coordinator and ECIA Chapter 2 Evaluation Team personnel will update evaluation instruments.	Agreement	1.5 Project coordinator and ECIA Chapter 2 Evaluation Team updated evaluation instruments.
1.6 Project coordinator and camp manager will notify principals and parents about the program.	Agreement	1.6 Copies of letters sent to parents and principals about the camp program are on file in the Evaluation Unit Office.
1.7 Principal and contact persons will identify eligible students.	Agreement	1.7 Copy of form for principals and contact persons to identify eligible students is in the Evaluation Unit office file.

†Processes are numbered to correspond with outcomes

OBJECTIVE A

PART II (continued)

PROCESSES †

INTENDED	STATUS	OBSERVED
1.8 Project coordinator and staff will prepare and distribute registration forms and physical evaluation forms.	Agreement	1.8 Project coordinator and staff prepared and distributed registration forms and physical evaluation forms as evidenced by completed forms.
1.9 Project coordinator will schedule participants and notify them of dates of attendance.	Agreement	1.9 Project coordinator scheduled participants and notified them as evidenced by forms and correspondence on file.
1.10 Project coordinator and staff will visit the camp site in advance of the program to assure readiness for the program.	Agreement	1.10 It was verified by the project coordinator that she and the staff made a 3 day visit to the camp site to assure readiness for the programs.
1.11 Project coordinator and staff will arrange transportation for participants.	Agreement	1.11 Transportation for participants was arranged by project coordinator and staff. This was observed by the team.
1.12 Camp manager will order camp supplies and materials.	Agreement	1.12 Camp manager verified that supplies and materials were ordered. This was observed by the team.
2.1 Project manager, project coordinator and camp manager will conduct a three-day staff development workshop.	Agreement	2.1 A three-day staff development workshop was conducted on July 1, 2, and 3, 1985 as evidence by agenda and evaluation questionnaires. Workshop was conducted by project manager, project coordinator and camp manager.

† Processes are numbered to correspond with outcomes

OBJECTIVE A

PART II (continued)

PROCESSES †

INTENDED	STATUS	OBSERVED
2.2 Project coordinator will monitor the workshop evaluation.	Agreement	2.2 Project coordinator monitored the workshop evaluation as evidenced by completed forms.
3.1 Project staff will keep records of attendance.	Agreement	3.1 Examination of records showed that attendance records were kept by the project staff.
3.2 Project staff will keep records of activities.	Agreement	3.2 The project coordinator verified that the staff kept records of activities as observed by the evaluators.
3.3 Participants will follow the daily schedules.	Agreement	3.3 Participants followed the daily schedule. This was observed during the visit by the evaluation team.
3.4 Project staff will supervise and teach the students.	Agreement	3.4 Five project staff members were observed; one teaching woodland ecology; one teaching stream ecology; one teaching geology and two teaching computer skills.
3.5 Project staff will conduct student assessments.	Agreement	3.5 The project coordinator conducted student assessments as evidenced by copies of student assessment materials.

† Processes are numbered to correspond with outcomes

OBJECTIVE A

PART III

OUTCOMES

INTENDED	STATUS	OBSERVED
1. Records submitted by the project coordinator to the ECIA Chapter 2 Evaluation Team by August 31, 1985, will show that the general administrative duties and planning necessary for establishing the Summer Science Camp have been accomplished.	Agreement	1. The project coordinator verified that administrative duties and necessary planning for the summer camp were accomplished. Records were submitted to the evaluation team. (See Appendix B.)
2. Evaluation of the staff development session submitted by the project coordinator to the ECIA Chapter 2 Evaluation Team by August, 1985 will show that 90% of the teachers rated the training as good or better on selected criteria.	Agreement	2. The staff development session was rated on five criteria, analysis of staff ratings of the sessions showed that 95.4% of the teachers rated the training in a highly positive way on the five selected criteria; 92.0% rated the presentation as exciting, 70.0% rated the training as very useful; 92% indicated that the session greatly increased their interest in the Nature-Computer Program; 100% indicated that the workshop objectives were met. (See Appendix C.)
3. Records submitted by the project coordinator to the ECIA Chapter 2 Evaluation Team by August 31, 1985, will show that the summer science camp was in operation for six 5-day sessions.	Agreement	3. Operation of the Nature-Computer Camp for the six-5 day sessions was evidenced by records of student participation and pre/post-data which were submitted at the end of each session. Answer sheets (pre/post data) indicated that 481 students attended at an average of 80 per session. (See Appendix D).

FINAL REPORT
PLANNING, MONITORING, AND IMPLEMENTING (PMI)
EVALUATION MODEL FOR DECISION-MAKING

Reporting Form

Goal: The Nature-Computer (Summer Science) Camp program will provide the opportunity for the student camper to develop socio-academic skills emphasizing environmental inter-dependencies and computer literacy.

Objective B: At the completion of the week in the Nature-Computer Camp Program participants will demonstrate a significant gain in knowledge in the areas of stream ecology, woodland ecology and geology and in knowledge about computers.

PART I

INPUTS

INTENDED	STATUS	OBSERVED
Inputs a through i are the same as in Objective A. Please see page 9.		
j. Curricula for four content areas	Agreement	j. Curricula for four content areas have been provided. Staff made up own objectives.
k. Program-designed test to measure knowledge of computers and of three areas of science.	Agreement	k. Program - designed test to measure knowledge of computers and three areas of science is on file in the office of the evaluation team.
l. 20 computers	Agreement	l. Twenty computers are available which were observed by the evaluation team.
m. Certificate of Participation	Agreement	m. Copies of Certificates of Participation are on file in the Division of Quality Assurance. (See Appendix E.)
n. Adequate materials and supplies	Agreement	n. Adequate materials and supplies were verified by the project coordinator.

OBJECTIVE B

PART I (continued)

INPUTS

INTENDED	STATUS	OBSERVED
o. In-camp bus transportation	Agreement	o. In-camp bus transportation was observed by the evaluation team.
p. Three trails - Wolf Rock Trail, Hog Rock Trail and Owens' Creek Trail.	Agreement	p. Three trails were available. The evaluation team observed participants on two of the trails.

OBJECTIVE B

PART II

PROCESSES †

INTENDED	STATUS	OBSERVED
1.1 Under the instruction or supervision and guidance of staff members, students will apply the following processes in each of the areas of the science component of the program: - apply measuring skills and problem solving techniques during investigation; - locate, organize, classify, record and interpret data; - make abstractions and inferences; - make observations, measure and collect data during the hikes.	Agreement	1.1 The evaluation team observed students studying the woodland ecology and stream ecology curriculum. Under the guidance and instruction of staff members, students were observed applying the following: - measuring skills and problem solving techniques such as determining the depth and velocity of a stream. - locating, organizing, classifying, recording, and interpreting data such as types of trees. - making observations, measuring and collecting data during the hikes, such as materials from a stream.
2.1 To help them acquire computer literacy, students will participate in classroom activities such as follows: - writing a simple program that works; - identifying the hardware components that make up a computer;	Agreement	2.1 Students were observed participating in classroom activities designed to help them develop computer literacy. The students were observed writing and entering programs using IBM-PC Junior Computers. Posters displaying the hardware components of the computer were observed by the team.

† Processes are numbered to correspond with outcomes

OBJECTIVE B

PART II (continued)

PROCESSES †

INTENDED	STATUS	OBSERVED
- participating in discussions involving the impact computers have, are having, and will have on society; - discussing computer related careers and how computers will affect each type of career; - receiving information on history of computers and computing devices.		Student reports were observed on the impact computers have, and will have on society. Pamphlets and periodicals were available which discussed computer-related careers.
2.2 Students will take the NCC Knowledge Test.	Agreement	2.2 The project coordinator verified that the students took the NCC Knowledge Test in their first and last days at the camp. The completed tests are on file in the Unit Office.
2.3 Each student will receive certificates of participation at the end of the session.		2.3 The project coordinator verified that students received certificates of participation at the end of each session.

† Processes are numbered to correspond with outcomes

OBJECTIVE B

PART III

OUTCOMES

INTENDED	STATUS	OBSERVED
1. Analysis of the pre- and post-test scores on the program-designed science test submitted to the Evaluation Team by the project coordinator by August 31, 1985 will show a significant increase in the ability to: - classify aquatic organisms, indicate life cycles of various organisms and infer interdependent relationships in a stream environment; - indicate interdependent relationships existing in a forest community and classify the organisms therein as producers, consumers or decomposers; - identify rocks, minerals and soil, classify examples of each group and identify evidence of erosion and weathering.	Agreement	1. Results of scores of science tests in all areas, analyzed on 424 cases (all students for whom both pre- and post-tests were available), showed a significant increase in knowledge at the 0.001 level. (See Appendix F.)

OBJECTIVE B

PART III (continued)

OUTCOMES

INTENDED	STATUS	OBSERVED
2. Analysis of the pre- and post-test scores on the program-designed computer test submitted to the Evaluation Team by August 31, 1985 will show a significant increase in knowledge about computers.	Agreement	2. Results of students' scores of computer tests of the 424 cases which were available were analyzed. A significant increase at the 0.001 level in knowledge about computers was found. (See Appendix F.)
3. Post-assessment scores on the teacher checklists on socialization, submitted by the project coordinator to the Chapter 2 Evaluation Unit by August 1, 1985 will show that the mean number of items mastered will be 70% or better.	Agreement	3. Checklists were completed by Teachers on the socialization of 424 campers. The total student mean score was 23.70 which is equivalent to 94.8%. As anticipated; the number of items mastered was greater than 70%. (See Appendix G for instrument.)

FINAL REPORT

PLANNING, MONITORING, AND IMPLEMENTING (PMI)
EVALUATION MODEL FOR DECISION-MAKING

Reporting Form

Goal: The Nature-Computer (Summer Science) Camp program will provide the opportunity for the student camper to develop socio-academic skills emphasizing environmental inter-dependencies and computer literacy.

Objective C: At the completion of the week in the Nature-Computer Camp Program, at least 80% of all participants will show maintenance or an increase of a positive attitude toward the program.

PART I

INPUTS

INTENDED	STATUS	OBSERVED
Inputs a through i are the same as in Objective A. Please see page 9.		
j. Pre- post-test attitude instrument	Agreement	j. The pre- post-test attitude instrument is available. The evaluation unit has a copy.
k. Adequate camp supplies and materials	Agreement	k. The project coordinator verified that adequate camp supplies and materials are available. They were observed by the evaluation team.
l. Adequate camp area and facilities	Agreement	l. The evaluation team observed that the camp area and facilities were adequate.

OBJECTIVE C

PART II

PROCESSES †

INTENDED	STATUS	OBSERVED
1.1 Attitude pre-tests will be administered at camp on Mondays.	Agreement	1.1 The project coordinator verified that attitude tests are administered to students on Mondays. One completed set was examined by the team.
1.2 Students will have opportunities for a wide variety of science and computer experiences with several different staff members.	Agreement	1.2 Opportunities for a wide variety of science and computer experiences with different staff members were observed. This included computer and art instructors, as well as those for geology, woodland ecology and stream ecology projects.
1.3 Students will be taught at their own level and pace.	Agreement	1.3 Students were observed being taught at their own level and pace.
1.4 Camp teachers will present subject matter in an enjoyable way using activities such as "Nature Bingo" and computer games.	Agreement	1.4 The project coordinator verified that teachers present subject matter by the use of games. Students were observed enjoying hands-on experience which allowed them to interact with their environment.
1.5 Students will be involved in extracurricular recreation activities.	Agreement	1.5 The project coordinator listed the extracurricular recreation activities which included mini-olympics and scavenger hunts. Students were given the opportunity to select any of the activities and counseled into trying more things if their choice was too narrow.
1.6 Attitude post-tests will be administered at camp on Fridays.	Agreement	1.6 The project coordinator verified that attitude post-tests are administered at the camp on Fridays. A complete set was examined by the team.

† Processes are numbered to correspond with outcomes

OBJECTIVE C

PART III

OUTCOMES

INTENDED	STATUS	OBSERVED
1. Pre- and post-assessment scores submitted by the project coordinator to the Chapter 2 Evaluation Team by August 31, 1985 will show that 80% of the students attending camp for a week, will show maintenance or an increase of a positive attitude toward the program.	Discrepancy	1. Results of pre- and post-tests attitude scale scores were analyzed on 424 participants. Although a discrepancy was found that only 27.4% of the students maintained or increased their positive attitude toward the programs on their post-test, (See Appendix H for instrument) that figure did not take into account the degree of improvement. On a scale of 1 to 5 with 1 being highest, the mean score increased from pre- to post-test (1.8 to 1.5).

FINAL REPORT

PLANNING, MONITORING, AND IMPLEMENTING (PMI)
EVALUATION MODEL FOR DECISION-MAKING

Reporting Form

Goal: The Nature-Computer (Summer Science) Camp program will provide the opportunity for the student camper to develop socio-academic skills emphasizing environmental interdependencies and computer literacy.

Objective D: Using a set of social expectations established by the staff and student campers, campers will demonstrate appropriate socialization.

PART I

INPUTS

INTENDED	STATUS	OBSERVED
Inputs a through i are the same as in Objective A. Please see page 9.		
j. Definition of a well socialized individual	Agreement	j. A copy of the definition of a well socialized individual is on file in the Evaluation Unit office. It states that the "well socialized individual is one whose behaviors are appropriate to the expectations set by the social group with which he or she interacts".
k. List of expected behaviors	Agreement	k. A list of expected behaviors is on file in the Evaluation Unit.
l. Counselor checklist	Agreement	l. The Evaluation Unit formulated a counselor checklist based upon expected behaviors. Input from project staff was also done. (See Appendix I.)
m. Adequate camp supplies and materials	Agreement	m. Adequate camp supplies and materials were available as evidenced by the project coordinator.
n. Adequate camp area and facilities	Agreement	n. The evaluation team observed that camp area and facilities were adequate.

OBJECTIVE D

PART II

PROCESSES †

INTENDED	STATUS	OBSERVED
1.1 Students will be given information on the definition of a well socialized individual.	Agreement	1.1 The project coordinator verified that students were given information on the definition of a well socialized individual and expected behaviors during their "Rap" session.
1.2 Students and counselors together will develop a list of social expectations including the pre-established list of expected behaviors.	Agreement	1.2 The project coordinator verified that students and counselors developed a list of social expectations. Pre-established list of expected behaviors was included (See Appendix I.)
1.3 Students will be involved in cooperative activities such as KP duty (cafeteria); dorm clean-up and inspection; camp clean-up and inspection; and a scavenger hunt.	Agreement	1.3 Rosters assigning individual students to cooperative activities such as; KP duty (cafeteria) and dormitory clean-up and inspection were observed by the evaluation team.
1.4 Counselors will lead social/interpersonal skills "rap-shops."	Agreement	1.4 It was verified by the project coordinator that counselors led social/interpersonal skills "rap-shops" periodically.
1.5 Counselors will complete individual student socialization checklists on Fridays.	Agreement	1.5 Counselors completed individual student socialization checklists on Fridays as evidenced by completed forms submitted to the Evaluation Unit office.

† Processes are numbered to correspond with outcomes

OBJECTIVE D

PART III

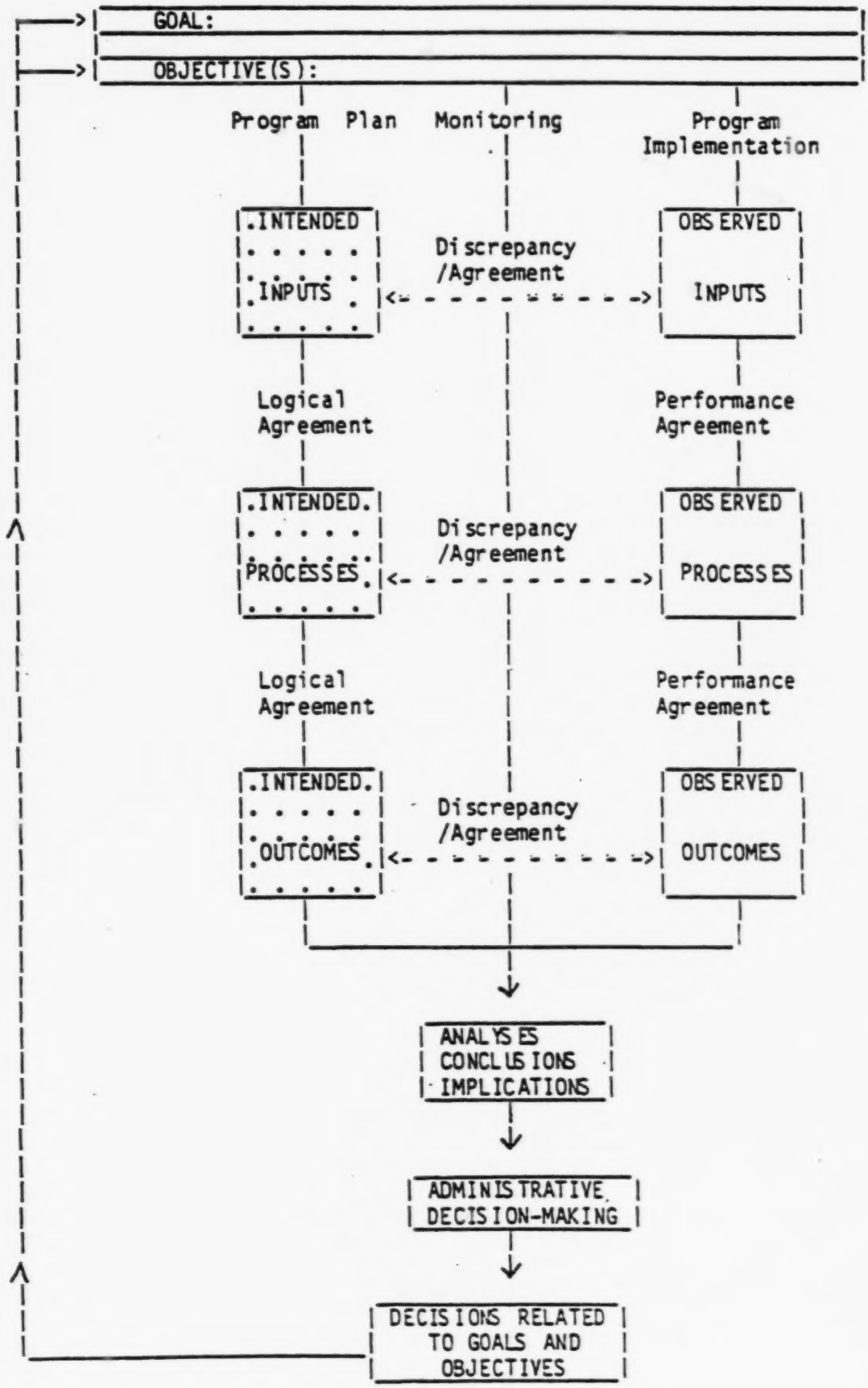
OUTCOMES

INTENDED	STATUS	OBSERVED
1. Post-assessment scores on the counselor checklists on socialization, submitted by the project coordinator to the Chapter 2 Evaluation Team by August 31, 1985 will show that the mean score of the students attending camp for a week, will be 70% or better.	Agreement	1. Counselors rated students' socialization by means of checklists. With a mean score of 1.3 or 91%, students attending camp for a week showed an increase in acquiring socialization skills. (See Appendix J for instrument).

APPENDIX A

EVALUATION MODEL SCHEMA

EVALUATION MODEL SCHEMA



APPENDIX B

CORRESPONDENCE, FORMS AND SCHEDULES FOR PLANNING AND IMPLEMENTING THE NATURE-COMPUTER CAMP PROGRAM

Office of Instruction **Instructional Services Center**
Langdon Elementary School
20th and Franklin Streets, N.E. Washington, D.C. 20018

March 29, 1985

Memorandum To: Elementary School Administrators

From: Dorothy E. Barton and Wendell Boyd, Coordinators
Nature Computer Camp

Subject: Summer Nature Computer Camp

We are happy to extend an invitation to your sixth graders to participate in the Nature Computer Camp program again this summer. As you may already know, the District of Columbia Public Schools sponsors this all expense paid, hands-on experience for selected students from sixth grade classes throughout the system.

The program provides an opportunity for the student camper to develop socio-academic skills emphasizing environmental interdependencies and computer literacy. The program's interdisciplinary activities utilize the natural resources in an outdoor setting and a special computer laboratory set up indoors. Recreational and crafts activities are incorporated to insure a balance of activities for each camper.

The Nature Computer Camp will be conducted at Camp Round Meadow in the Catoctin Mountain Park in Thurmont, Maryland from July 8 - August 16, 1985. The facility is made available for our use by the National Park Service. Only those sixth graders who will be promoted to the seventh grade are eligible to participate. Eligible students will spend one week (Monday - Friday) at the camp-site where a competent staff of resident teachers, counselors and a camp director will provide instruction and supervision during their stay.

Again we are asking you to support our efforts by selecting a building contact person who will prepare ten potential campers and five alternates from your school. The contact person should complete the enclosed summary sheet by May 16, 1985 which includes the following information.

1. *A list of the names of ten selected campers and five alternate names.*
2. *Current health insurance company name and policy number for each camper.*
3. *A copy of a recent physical examination signed and dated by the examining physician. Many students will be able to use a copy of the school physical evaluation form completed for the current school year. Be sure that these have also been signed by a doctor.*

Please submit for each camper a completed registration form and physical evaluation form along with your summary sheet. Send all information to Dorothy E. Barton or Wendell Boyd at Langdon - Instructional Center by the above date. You may reach us on 576-6580 to answer any questions that you may have.

Thank you for your cooperation.

DEB:WB:bjh

Enclosure (2)

Deadline: May 16, 1985

Nature Computer Camp
Camp Round Meadow
Summary Sheet

Contact Person _____ School _____

Please return this summary sheet enclosed with student application forms.

a. *List the names of the 10 student applicants and 5 alternates.*
b. *In column 1, check off that a copy of each childs physical examination has been sent.*
c. *Record health insurance information for each child in columns 2 and 3.*

Student's Name	#1 Phy. Exam. signed by doctor	#2 Health Insurance Policy #	#3 Health Insurance Company
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Alternates			
1.			
2.			
3.			
4.			
5.			

Principal's Signature _____

Date _____

Office of Instruction **Instructional Services Center**

Langdon Elementary School
20th and Franklin Streets, N.E. Washington, D.C. 20018

April 1, 1985

Memorandum To: Parent/Guardian

From: Dorothy E. Barton, Coordinator DEB
Nature Computer Camp Staff

Subject: Student Eligibility/Invitation

We are happy to announce that the District of Columbia Public Schools' Nature Computer Camp will operate again this summer from July 8 - August 16, 1985. The Nature Computer Camp creates an opportunity for students to gain an understanding and appreciation of the natural environment and become computer literate at the same time. It also offers students the opportunity to use and increase their skills in making observations about the natural environment and in using computers to help learn problem-solving skills.

The program operates at Camp Round Meadow in the Catoctin Mountain Park in Thurmont, Maryland on a site provided by the National Park Service.

Students now completing the sixth grade are eligible to participate. A written verification of a recent physical examination, signed by the examining physician, must be submitted to this office before a child can attend. Current health insurance coverage is also a must.

If you would like for your child to attend the Nature Computer Camp this summer, please complete the registration and consent form and return it to your child's school immediately. When the applications are received by this office, each student will be assigned one week to attend camp on a first come, first served basis. As soon as the schedule for campers is completed, we will send a confirmation letter designating the week that your child will attend.

Questions concerning the program may be directed to Dorothy E. Barton and Wendell Boyd at Langdon Instructional Services Center, 576-6580.

DEB:WB:bjh

ROUND MEADOW NATURE-COMPUTER CAMP

Instructional Services Center
Langdon Elementary School
20th & Evarts Streets, N.E.
Washington, D.C. 20018
Telephone: 576-6580

ROUND MEADOW NATURE COMPUTER CAMP
CATOCTIN MOUNTAIN PARK - THURMONT, MARYLAND

REGISTRATION

NAME: _____ DATE OF BIRTH: _____ SEX: _____

HOME ADDRESS: _____ ZIP CODE: _____ TELEPHONE: _____

SCHOOL: _____ TEACHER'S NAME: _____

EMERGENCY CONTACT: (Please Print) _____

DAY PHONE: _____ NIGHT PHONE: _____

HEALTH INSURANCE PROVIDED: Company is: _____

Policy Number is: _____

Parent's or Guardian's Consent:

I hereby request that _____ be permitted to attend Round Meadow Camp at Thurmont, Maryland and participate in all the activities of the Nature Computer Camp Program for one week between July 8 - August 16, 1985. I would prefer that my child **NOT** be scheduled for the week beginning _____ and ending _____. I understand that the scheduling is done on a school by school basis and on a first come first served plan.

With the understanding that the utmost care will be taken to insure my child's safety and welfare, I authorize the Camp Director to act for me according to his/her best judgement and ability in any emergency that may arise requiring medical care or otherwise.

I understand that my child must have a physical examination before he/she can attend. If this examination cannot be done by the school physician, I will be prepared to take my child to a neighborhood health clinic or my personal physician.

Date: _____ _____
Parent/Guardian Signature

_____
(Please PRINT Parent/Guardian Name on this Line)

Recommended Clothing and Personal Articles

Each participant will need:

1. A pair of comfortable walking/hiking shoes and a pair of tennis shoes
2. A pair of high top rubbers or overshoes or boots
3. A jacket
4. A pair of pajamas
5. 2 or 3 complete outfits of old clothes (jeans/slacks, sweatshirts, tee shirts.)
6. 4 or 5 pairs of socks
7. 3 or 4 complete sets of underwear
8. Towel and washcloth
9. Shower clogs
10. Comb, toothbrush, toothpaste, soap, deodorant, lotion
11. A rain coat
12. A set of sheets or sleeping bag
13. A pillow (if desired)
14. Flashlight with batteries
15. Feminine hygiene articles (females)

Campers are not allowed to bring the following articles: radios; television; tape recorders; valuables (such as expensive jewlery or watches); any knives, chains, martial arts or other weapons; any drugs except those prescribed by a physician (these must be delivered to the camp nurse.)

It is important that suitcases have a lock with a key.

Tagging: To assure proper identification, all personal belongings should be stamped or initialed with indelible ink.

All clothing and other belongings should be packed in ONE piece of luggage or durable bag.

Personal Property: The staff and camp administration will not be responsible for loss or theft of personal property; however, every precaution will be made to protect them.

Office of Instruction **Instructional Services Center**

Langdon Elementary School
20th and Franklin Streets, N.E. Washington, D.C. 20018

Nature-Computer
Camp Confirmation

Dear Parent:

_____ will attend the _____ session of the .

Nature Compter Camp from Monday, _____ to Friday,

_____.

Buses will pick up students at Langdon Elementary School, located at 20th and Franklin Streets, N.E. Students should report to the Evarts Street side of the building. The departure time is 8:30 a.m. on Monday morning and students will return to Langdon around 2:30 p.m. the following Friday. It is mandatory that you or a responsible adult be at Langdon on Friday afternoon to pick up your child when the buses arrive. Please do not advise your child to take a cab home. Cab drivers have been very reluctant to pick up our students in the past. Some of them are not permitted by their companies to transport minor children.

If for any reason your child cannot attend camp on the date listed above, please notify this office promptly so that he/she may be rescheduled or an alternate camper can be selected. Questions or concerns may be directed to Dorothy E. Barton, Instructional Services Center, Langdon School, 576-6580.

We are looking forward to seeing your child at camp.

Dorothy E. Barton

Dorothy E. Barton, Coordinator
Nature-Computer Camp

DEB:bjh

Office of Instruction **Instructional Services Center**
Langdon Elementary School
20th and Franklin Streets, N.E. Washington, D.C. 20018

June 10, 1985

Memorandum To: Affected Elementary School Principals

From: Dorothy E. Barton, Coordinator DEB
Nature-Computer Camp

Subject: Scheduling Campers

Thank you for responding to our invitation to involve your sixth graders in our Summer Nature-Computer Camp at Camp Round Meadow. Students who submitted completed registration information and proof of a recent physical examination were scheduled on a first come first served basis. All spaces for the six weeks were filled by May 31, 1985. Confirmation letters for registered students have been sent to school contact persons to be forwarded to parents.

☐ Your eligible students are registered and their camp date has been confirmed.

Your students were not registered for the following reason:

☐ Completed forms from your school were received too late to be scheduled. We have placed these students on a waiting list. If space should become available we will contact the parents of these students directly.

☐ Registration information for your students was incomplete. If you would like to submit the missing information to this office we will place your students on the waiting list. Their parents will be contacted directly, if space should become available.

DEB:bjh

Office of Instruction **Instructional Services Center**
Langdon Elementary School
20th and Franklin Streets, N.E. Washington, D.C. 20018

May 23, 1985

Memorandum To: Contact Persons

From: Dorothy E. Barton, Coordinator DEB
Nature Computer Camp

Subject: Student Confirmation Letters for Camp

Enclosed are letters confirming the registration of your students in the Nature-Computer Camp at Round Meadow this summer. Please send these home to parents as soon as possible. Further questions and concerns may be directed to Dorothy E. Barton, Instructional Services Center, Langdon School, 576-6580.

DB:bjh

Office of Instruction **Instructional Services Center**
Langdon Elementary School
20th and Franklin Streets, N.E. Washington, D.C. 20018

May 17, 1985

Memorandum To: Nature Computer Camp Staff

From: Dorothy E. Barton, Coordinator DEB
Nature Computer Camp

Subject: Staff Development for Nature Computer Camp

It is, indeed, a pleasure to welcome our former and new staff members to another exciting and hopefully, successful summer at Camp Round Meadow. Our new members appear to be just as energized and anxious as our former ones to make this the best summer yet for our youngsters.

As you may already know, July 1-3, 1985 are the confirmed dates for our three day workshop at the camp site. May I take this opportunity to thank each of you for volunteering your time to actively participate in the scheduled activities.

Let me assure you that since the workshop is being conducted prior to the 4th of July holiday, we will put forth a special effort to complete our activities so that you can return as early as possible on Wednesday the 3rd.

We would like to arrange car pools so that everyone will have transportation to and from the camp. We will depart from Langdon School about 8:30 a.m., Monday, July 1. Please bring casual clothes, personal items including towels and wash cloths, a pillow (if desired) and sheets or a sleeping bag for your bed. A flashlight will also be useful.

Let us know promptly if you plan to drive or if you need a ride. You can call us on 576-6580.

We greatly appreciate your support.

DEB:bjh

Office of Instruction **Instructional Services Center**

Langdon Elementary School
20th and Franklin Streets, N.E. Washington, D.C. 20018

April 24, 1985

Memorandum To: *Dr. Doris Woodson*
Assistant Superintendent
Division of Special Education

From: *Mary B. Harbeck* MBH
Supervising Director, Science

Subject: *Summer Nature Computer Camp*

We are happy to extend an invitation to the Special Education students to participate in the Nature Computer Camp program again this summer. As you may already know, the District of Columbia Public Schools sponsors this all expense paid, hands-on experience for selected students throughout the system.

The program provides an opportunity for the student camper to develop socio-academic skills emphasizing environmental interdependencies and computer literacy. The program's interdisciplinary activities utilize the natural resources in an outdoor setting and a special computer laboratory set up indoors. Recreational and crafts activities are incorporated to insure a balance of activities for each camper.

The Nature Computer Camp will be conducted at Camp Round Meadow in the Catoctin Mountain Park in Thurmont, Maryland from July 8 - August 16, 1985. The facility is made available for our use by the National Park Service. Eligible students will spend one week (Monday - Friday) at the camp-site where a competent staff of resident teachers, counselors and a camp director will provide instruction and supervision during their stay.

Again we are asking you to support our efforts by selecting a contact person who will prepare thirty potential campers and twelve alternates from your program. The contact person should complete the enclosed summary sheet by May 16, 1985 which includes the following information.

1. *A list of the names of thirty selected campers and twelve alternate names.*
2. *Current health insurance company name and policy number for each camper.*
3. *A copy of a recent physical examination signed and dated by the examining physician. Many students will be able to use a copy of the school physical evaluation form completed for the current school year. Be sure that these have also been signed by a doctor.*

Please submit for each camper a completed registration form and physical evaluation form along with your summary sheet. Send all information to Dorothy E. Barton or Wendell Boyd at the Instructional Services Center, Route #3 by the above date. You may reach us on 576-6580 to answer any questions that you may have.

Thank you for your cooperation.

MBH:bjh

Enclosures (3)

NATURE - COMPUTER CAMP
Summer 1985

SCHEDULE OF EVENTS

ROUND MEADOW
THURMONT, MD.

MONDAY

8:45 - Buses leave D.C.

10:30 - Buses arrive at Round Meadow

10:45 - Orientation - dorm assignments, general rules and regulations
(Outside - in cafeteria if raining)

11:30 - Settling in dorms (Counselors making sleeping assignments)

12:15 - Lunch (Cafeteria Style) all groups

1:00 - 1:55 - Pre-test Teachers (with homeroom groups)
Micro - Chips - (classroom #1) - Alma
Trailblazers - (classroom #2) - Brenda
Backpackers - (rear of cafeteria) - Richard
Loopers - (E.C.) - Veronica/Lawrence

Counselor's "Rap Shop"

2:00 - 2:55 - "Rap Shop" all groups with counselors

3:00 - 3:55 - Computer Orientation - Loopers (Veronica & Shaun)
Arts & Crafts - Micro-Chips (Emmanuel & Carolyn)
Recreational Activities - Trailblazers and Backpackers (Counselors with their groups)

4:00 - 4:55 - Computer Orientation - Backpackers (Lawrence & Stephen)
Arts and Crafts - Trailblazers, (Brian & Jill)
Recreational Activities - Loopers and Micro-Chips (Counselors with their groups)

5:15 - KP'sto Cafeteria

5:30 - Dinner (family style)

6:20 - Free Time

7:00 - 7:55 - Computer orientation - Micro Chips (Veronica & Emmanuel)
Arts and Crafts - Loopers (Shaun & David)
Trails Orientation - (conference room) - Trailblazers and Backpackers, (Brenda, Kim, and Brian)

8:00 - 8:55 - Computer orientation - Trailblazers (Lawrence & Jill)
Arts and Crafts - Backpackers - (Stephen & Kim)
Trails Orientation (conference room) - Loopers and Micro-Chips (Richard, David & Carolyn)

9:00 - Preparation for bed

TUESDAY

7:00 - Wakeup

7:30 - KP's to cafeteria
Aerobics (All Staff)

7:45 - Breakfast (family style) all groups and staff

8:30 - 8:50 - cleaning dorms - counselors (all groups)

9:00 - 12:00 - Classes (all groups)

Loopers - Stream Ecology (Richard & Shaun)
Backpackers - Woodland Ecology (Brenda & Stephen)
Trailblazers - Computers (Lawrence & Jill)
Micro-Chips - Computers (Veronica & Emmanuel)

12:00 - 12:45 - Lunch (cafeteria style)

12:45 - 1:00 - free time

1:00 - 4:00 - Classes (all groups)
Loopers - Computers (Veronica & David)
Backpackers - Computers (Lawrence & Kim)
Trailblazers - Geology (Alma & Brian)
Micro-Chips - Woodland Ecology (Brenda & Carolyn)

4:15 - 5:10 - Recreational Activities (all groups with their counselors)

5:15 - KP's to cafeteria

5:30 - Dinner (family style) (all groups)

6:30 - 7:25 - Nature Scavenger Hunt (all groups)
Trailblazers (Brian & Jill)
Backpackers (Stephen & Kim)
Loopers (Shaun & David)
Micro-Chips (Carolyn & Emmanuel)

7:30 - 8:30 - Computer Practice - Loopers and Backpackers (Alma, Shaun & Stephen)
Nature Bingo - Micro-Chips and Trailblazers (Lawrence, Carolyn & Brian)

8:35 - 9:35 - Computer Practice - Micro-Chips and Trailblazers (Richard, Emmanuel & Jill)
Nature Bingo - Loopers & Backpackers (Veronica, David, & Kim)

9:35 - - Preparation for bed

10:15 - - Lights Out

WEDNESDAY

7:00 -	Wakeup
7:30 -	KP's to cafeteria Aerobics (all staff)
7:45 -	Breakfast - all groups and staff (family style)
8:30 - 8:50	Clearing dorms (all groups)
9:00 - 12:00 -	Classes (all groups) Loopers - Computers (Veronica & Shaun) Backpackers - Computers (Lawrence & Stephen) Trailblazers - Stream Ecology (Richard & Jill) Micro-Chips - Geology (Emmanuel & Alma)
12:00 - 12:45 -	Lunch (cafeteria style)
12:45 - 1:00 -	Free time
1:00 - 4:00 -	Classes (all groups) Loopers - Woodland Ecology (Brenda & David) Backpackers - Geology (Alma & Kim) Trailblazers - Computers (Veronica & Brian) Micro-Chips - Computers (Lawrence & Carolyn)
4:15 - 5:15 -	Extracurricular Activities (all groups with their counselors)
5:15 -	KP's to cafeteria
5:30 -	Dinner (family style) all groups & staff
6:30 - 7:30 -	Recreational Activities (all groups with their counselors) (Sarah)
7:30 - 8:30 -	Computer Practice - Loopers and Backpackers (Brenda, David & Kim) Extracurricular Activities - Trailblazers and Micro-Chips (with their counselors)
8:35 - 9:35 -	Computer Practice - Trailblazers and Micro-Chips (Richard, Jill & Emmanuel) Extracurricular Activities - Loopers and Backpackers - (with their counselors)
9:35 -	Preparation for bed
10:15 -	Lights out

THURSDAY

7:00 - *Wakeup*

7:30 - *KP's to cafeteria*
Aerobics (all groups & staff)

7:45 - *Breakfast (family style) all groups & staff*

8:30 - 8:50 *Cleaning dorms (all groups)*

9:00 - 12:00 - *Classes (all groups)*

Loopers - Geology (Alma & Shaun)
Backpackers - Stream Ecology (Richard & Stephen)
Trailblazers - Computers (Veronica & Jill)
Micro-Chips - Computers (Lawrence & Emmanuel)

12:00 - 12:45 - *Lunch*

12:45 - 1:00 - *Free time*

1:00 - 4:00 - *Classes (all groups)*
Loopers - Computers (Lawrence & David)
Backpackers - Computers (Veronica & Kim)
Trailblazers - Woodland Ecology (Brenda & Brian)
Micro-Chips - Stream Ecology (Richard & Carolyn)

4:15 - 5:15 - *Extracurricular Activities (all groups with their counselors)*

5:15 - *KP's to cafeteria*

5:30 - *Dinner (family style) all groups & staff*

6:30 - 8:30 - *Mini-Olympics (all groups & staff)*

8:30 - 9:30 - *Simulated Campfire (all groups & staff)*
9:35 - *Preparation for bed*
10:15 - *Lights out*

FRIDAY

7:00 - *Wakeup*

7:30 - *KP's to cafeteria*
Aerobics (all groups & staff)

7:45 - *Breakfast - (family style) all groups and staff*

9:00 - *Post-Tests (all groups) Teachers with homeroom group*
Loopers - (E.C.)
Micro-Chips - classroom #1
Trailblazers - classroom #2
Backpackers - rear of cafeteria

10:00 -	*Camp Shakedown (all groups with their counselors)*
11:15 -	*"Rap Shop" Counselors (with their groups)*
12:00 -	*Lunch*
12:30 -	*Board buses for D.C.*

ADDENDUM TO SCHEDULE (P.M.)

TUESDAY

4:00 - 4:20 - Cooling off after classes Loopers (LO), Trailblazers (TB), and Backpackers (BP) with their counselors.

4:20 - 5:15 - TB, LO, and BP with their counselors in group areas.

4:30 - 4:45 - Cooling off after classes MicroChips (MC).

4:45 - 5:15 - MC with their counselors in group areas.

WEDNESDAY

4:00 - 4:20 - Cooling off after classes LO, TB, and MC with their counselors.

4:20 - 4:45 - LO, and TB - Basketball court (practice for mini-olympics activities).

4:30 - 4:45 - Cooling off after classes with their counselors (BP).

4:50 - 5:15 - BP, and MC - Basketball court (mini-olympic activities).

4:50 - 5:15 - LO and TB in group areas with their counselors.

THURSDAY

4:00 - 4:20 - Cooling off (all group) with their counselors.

4:20 - 5:15 - Extra Curricular activities (all groups with their counselors in group areas).

*NOTE - (do not use obstacle course and mini-olympic area for any practices).

APPENDIX C

RESULTS OF NATURE-COMPUTER CAMP STAFF DEVELOPMENT
WORKSHOP QUESTIONNAIRES, 1985

RESULTS OF NATURE-COMPUTER CAMP STAFF DEVELOPMENT WORKSHOP QUESTIONNAIRES, August 1985

Item	Excellent (5)		Good (4)		Average (3)		Fair (2)		Poor (1)		No Response		Total		Mean
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
Manner	5	38.5	7	53.8	1	7.7	0	0.0	0	0.0	0	0.0	13	100	1.69
Clarity	10	76.9	3	23.1	0	0.0	0	0.0	0	0.0	0	0.0	13	100	1.23
Value	6	46.2	6	46.2	1	7.7	0	0.0	0	0.0	0	0.0	13	100	1.62
Interest	7	53.8	5	38.5	1	7.7	0	0.0	0	0.0	0	0.0	13	100	1.54
Objectives Met	8	61.5	5	38.5	0	0.0	0	0.0	0	0.0	0	0.0	13	100	1.38
AVERAGE PERCENT	36	55.4	26	40.0	3	4.6	0	0.0	0	0.0	0	0.0	65	100	1.49

Summary of Ratings Completed - 1985

Number of Respondents - 13

APPENDIX D

RECORD OF STUDENT
PARTICIPATION BY SCHOOL

NATURE COMPUTER CAMP
Camp Round Meadow
Summer 1985
July 8 - August 16,

Record of Student Participation

	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Total
Adams	1						1
[illegible]ton		4					4
[illegible]midon					7		7
[illegible]ncroft				3			3
[illegible]eers			4			3	7
Benning							0
[illegible]rney							0
Blow						1	1
[illegible]wen						5	5
Brent		1				1	2
[illegible]ightwood						9	9
Brookland		9					9
[illegible]uce Monroe			4				4
Bryan	6						6
[illegible]nker Hill			8	2			10
Burroughs					7		7
[illegible]rrville				1			1
[illegible]rver							0
Clark				4			4
[illegible]eveland							0
Cook, J.F.						2	2
[illegible]ke, H.D.							0
Davis						5	5
[illegible]per	10						10
Drew	10						10
[illegible]on	1						1
Emery		1		1		1	3
Fletcher-Johnson							0
Fort Lincoln			5		1		6

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Record of Student Participation Continued

	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Total
Friendship				5			5
Gage Eckington						6	6
Garfield							0
Garrison		1			1		2
Gibbs					1		1
Giddings				3			3
Goding	2						2
Green		5					5
Hardy				1	5	1	7
Harris	2	5		1			8
Hearst							0
Hendley					6		6
Hobson				1	5	1	7
Houston				7			7
Janney	3						3
Keene				6			6
Kenilworth		2					2
Ketcham	8			1		1	10
Kimball					8		8
King, M.L.			7		1		8
Kingsman						2	2
Lafayette							0
Langdon	6		5	2		2	15
LaSalle		5					5
Leckie						7	7
Lewis							0
Ludlow-Taylor							0
Malcolm X	2						2
Mann	2			2			4

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	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Total
Maury			1	2			3
McGogney		2	1	2	2		7
Merritt			4				4
Meyer			5				5
Miner		8					8
Montgomery				3			3
Moten				5		7	12
Murch	1						1
Nalle	1					1	2
Noyes							0
Orr				1			1
Oyster					3		3
Parkview							0
Patterson					5		5
Payne			1			1	2
Petworth							0
Plummer		1			3		4
Powell							0
Randle Highland						3	3
Raymond			11				11
Reed							0
Richardson							0
River Terrace						6	6
Ross		5					5
Rudolph		1	9				10
Savoy						3	3
Seaton		3					3
Shadd							0
Shaed		2				1	3

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Record of Student Participation Continued

	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Total
Shepherd	2		8				10
Simon		8					8
Slater-Langston							0
Slowe			1		1	2	4
Smothers				2			2
Stanton		6					6
Stevens					8		8
Syphax						1	1
Takoma					1	7	8
Terrell							0
Thomas				6			6
Thomson							0
Truesdell							0
Tubman							0
Turner			1			1	2
Tyler					7		7
Van Ness				2			2
Walker-Jones							0
Washington Highland	4			1			5
Watkins					3		3
Weatherless							0
Webb			9				9
West		4				2	6
Wheatley	4						4
Whittier	1	3		1			5
Wilson				6	1		7
Winston							0
Woodridge							0
Young	8						8
Special Ed.		3	4		4	2	13
Special Arrangements	1		1	1	2		5
Grand Total	75	79	89	72	82	84	481

APPENDIX E

STUDENT CERTIFICATE OF PARTICIPATION

Certificate of Participation

_____

has participated in

D.C.P.S. NATURE COMPUTER CAMP

_____

Session _____ Date _____

Signed Sarah E. Brown

APPENDIX F

STUDENTS' PRE- AND POST-TEST RESULTS
ON THE COMPUTER AND SCIENCE KNOWLEDGE TEST

STUDENTS' PRE- AND POST-TEST RESULTS OF THE
COMPUTER AND SCIENCE TESTS ON THE
NATURE COMPUTER CAMP PROGRAM

Knowledge Sub-tests	Number of Students	Mean	Standard Deviation	t Value	Level of Significance
Computer Pre-test	424	5.4	1.7	-19.4	0.001
Computer Post-test		6.9	1.5		
Stream Ecology Pre-test	424	3.0	1.2	-26.8	0.001
Stream Ecology Post-test		4.6	0.8		
Woodland Ecology Pre-test	424	3.3	1.4	- 6.7	0.001
Woodland Ecology Post-test		3.8	1.2		
Geology Pre-test	424	1.5	1.1	-27.9	0.001
Geology Post-test		3.2	0.9		

APPENDIX G

TEACHER CHECKLIST

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Nature-Computer
Camp Teacher Checklist

Below is a list of competencies and skills that we expect of our campers upon completion of a session at the Nature-Computer camp. Please evaluate each camper as fairly as possible by checking whether he/she was able to master the skill or not. If the skill was not observed, please indicate this on the checklist.

Thank you for your cooperation.

Teacher_____ Session_____ Camper_____ Date_____

		A Mastered	B Not Mastered	C Not Observed
A. COMPUTER SKILLS	91. Set up computer for operation			
	92. Turn computer on and off			
	93. Identify components and functions			
	94. Distinguish between commands and statements			
	95. Locate points on graph paper			
	96. Plot points on CRT			
	97. Graph a rectangle			
	98. Write a program for plotting a rectangle			
	99. Construct a scrapbook on computer literacy			
B. WOODLAND ECOLOGY SKILLS	100. Name and identify at least three different trees found on the trail			
	101. Give examples of plant and animal interdependency			
	102. Name a producer and tell what it produces			
	103. Name three consumers in a woodland community			
	104. Describe the role of a decomposer			
C. STREAM ECOLOGY SKILLS	105. Measure the rate of flow, temperature and depth of a stream			
	106. Use collected stream specimens to help describe the kinds of organisms that populate a stream			
	107. Name and distinguish the various stages of metamorphosis			
	108. Describe at least one example of interdependence in a stream			
	109. Infer how factors such as temperature, velocity, pH and light can affect the numbers and kinds of organisms in a stream			
D. GEOLOGY SKILLS	110. Classify rocks as igneous, sedimentary or metamorphic			
	111. Name at least three characteristics of rocks and minerals			
	112. Describe three characteristics that make soils different			
	113. Identify and describe some evidence of weathering and erosion			
	114. Use a compass to locate different directions			
	115. Describe and infer evidence of the earth undergoing constant change			
	116. Other Skills: _____			

* Items start at number 61 to correspond with numbers on the General Purpose answer sheet.

APPENDIX H

STUDENTS' ATTITUDE TEST

Nature-Computer Camp
Attitude Scale for Campers

Name _____ ID _____ School _____

Age _____ Date _____

Grade _____ Boy or Girl (circle one)

Direction: We would like to know your feelings about the natural environment, computers and living with others. Please read each statement and indicate with a checkmark ( ) whether you agree a lot, agree a little, are undecided, disagree a lot or disagree a little.

It is fun to:	1 Agree a lot	2 Agree a little	3 Undecided	4 Disagree a little	5 Disagree a lot
*41. learn at an outdoor school					
42. live and work with students from other schools					
43. make friends with students from other schools					
44. solve science problems					
45. learn about rocks and soils					
46. collect rocks and soils					
47. learn about animals that live in the forest					
48. learn about plants in the forest					
49. collect small animals from a stream					
50. learn about computers					
51. use computers					
52. be taught by different teachers					

*Responses should start at 41 on the General Purpose answer sheet.

Prepared by
Division of Quality Assurance

062184

APPENDIX I

A SAMPLE OF EXPECTED SOCIAL BEHAVIORS

A Sample of Expected Social Behaviors

Objective: Using a set of appropriate social expectations established by the staff and student campers, campers will demonstrate maintenance or improvement in each.

The well socialized individual is one whose behaviors are appropriate to the expectations set by the social groups with which he interacts.

Suggestions for evaluation:

1. If all the campers agree to do something that you do not care to do, you should refuse to help them.
2. Students who do not follow the camp rules and regulations are poor campers.
3. A camp director should not expect you to do tasks (things) which you are not willing to do.
4. It is necessary to respect the rights of others when you are living and working with them.
5. All campers should share the responsibility of keeping the camp facilities and the camp grounds clean.

Activities

1. KP duty (cafeteria)
2. Scavenger hunt
3. Dorm clean-up and inspection
4. Camp clean-up and inspection
5. Interpersonal skills "rap-shop"

Counselor Checklist

1. Respects the rights of others
2. Follows camp rules
3. Participates in trail activities
4. Participates in computer activities
5. Uses equipment with care
6. Interacts with other campers

7. Is curious and investigative

8. Helps to keep dormitory clean

9. Completes assignments on time

Expected Behavior - Students

1. Follow rules and regulations of the camp

2. Respect the rights of others

3. Share in keeping camp facilities and grounds clean

4. Participate in all camp activities

5. Report to camp activities on time

6. Refrain from use of profanity/abusive language

7. Practice safety rules on trails and at campsite

8. Expect to be supervised at all times

9. Remain within the boundaries of the camp from time of arrival to departure

10. Stay away from unsupervised areas.

Students will participate in classroom activities designed to help acquire computer literacy by:

1. Writing a simple program that works (using graphics).

2. Identifying the hardware components that make up a computer.

3. Participating in discussions involving the impact computers have, are having, and will have on society.

4. Becoming familiar with computer related careers and how computers will affect each type of career.

5. Knowing a history of computers and computing devices.

APPENDIX J

COUNSELOR CHECKLISTS

Nature-Computer Camp

Counselor Checklist

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We are interested in the social behaviors of the campers. Certain of these behaviors are listed below. Please indicate by checking on the scale provided whether the behaviors were observed all the time, most of the time, part of the time or never. If you don't know, please indicate. Also state in the space provided other social behaviors worth noting.

Thank you for your cooperation.

Counselor _____ Camper _____

Session _____ Date _____

	A All of the time	B Most of the time	C Part of the time	D Never	E Don't know
61.* Follows camp rules and regulations					
62. Keeps camp facilities and grounds clean					
63. Uses camp equipment with care					
64. Remains within the boundaries of the camp at all times					
65. Practices safety rules on trails and at the campsite					
66. Stays away from unsupervised areas					
67. Participates in camp activities					
68. Reports to camp activities on time					
69. Completes assignments on time					
70. Follows instructions of camp personnel					
71. Is not verbally abusive					
72. Is not physically abusive					
73. Is cooperative					
74. Maintains a good relationship with other campers					
75. Maintains a good relationship with teachers and counselors					
Other social behaviors (identify below and rate on the scale)					
76. _____					
77. _____					
78. _____					

* Items start at number 101 to correspond with numbers on the General Purpose answer sheet.

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Division of Quality Assurance

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